

3.9.7 Advanced Energy Design Guide for Typical Educational Facilities (1)**Shell**

Percent Glass	35% Maximum
Window U-Factor	0.33-0.56
Wall R-Value	5.7-15.2
Roof R-Value	
Attic	30.0-60.0 (2)
Insulation Above Deck	25.0
Wall Material	Mass: Heat Capacity > 7 Btu/SF*F

Lighting

Average Power Density(Watts/ft.^2)	
With Daylighting	0.9
Without Daylighting	1.1

System and Plant

System and Plant	
1 Central System	
Packaged Multi-Zone w/ Economizer	Comply with ASHRAE 90.1
Heating Plant:	
Gas Boiler	80-85 Combustion Efficiency
Cooling Plant:	
Hermetic Centrifugal Chiller	Comply with ASHRAE 90.1
Service Hot Water:	
Gas Boiler	80-85 Combustion Efficiency

Note(s): 1) Guide provides approximate parameters for constructing a building which is 30% more efficient than ASHRAE 90.1-1999.
 Ranges are because of climate zone dependencies.

Source(s): ASHRAE, Advanced Energy Design Guide for K-12 School Buildings, 2004.